

recommended to human geneticists, eugenis-
tists and clinicians.

The discovery of Koch's bacillus directed attention for the most part to exogenous causes of tuberculosis, such as exposure to infection, defective hygiene and nutrition, and the like. But though the influence of these environmental factors has been proved beyond doubt, there have remained many facts which they do not explain. Why is it that in families whose members are equally exposed to massive infection and who live under bad hygienic conditions, some either do not develop tuberculosis at all or only very mildly, while others die of it? Or why do certain individuals succumb although they live under the best conditions and are carefully guarded against infection? To account for these facts, constitutional factors have been held responsible, but owing to the great complexity of the problem, have remained ill-defined.

Diehl and von Verschuer investigated the inherited disposition or resistance to tuberculosis by means of the twin method. Uniovular twins are genotypically alike and differences between the partners are entirely due to environmental factors. Fraternal twins are genotypically different and differences between the partners are due to both environmental and genetical differences. The comparison of these groups therefore throws light on the influence of hereditary factors. Since external factors play an important role in tuberculosis, special care was taken to get detailed data about the whole life history of the pairs. In each of the twin groups the pairs were arranged on a scale according to the similarities or differences in environmental conditions, including particularly differences in exposure to infection and the possibility of a healthy twin being infected by the other twin. The tubercular symptoms were scrupulously investigated, and seven different criteria were used for the grading of subjects. Many of the cases being of long standing, a large number of X-ray photographs was available. In addition, all living partners were investigated at least once both clinically and anthropologically. A large part of the material was collected in such a

way that no selection for the "interesting" pairs could occur. Detailed histories are given of all the cases, frequently accompanied by the radiograms. Thus material concerning 127 pairs has been published which gives valuable information on general questions as well as on interesting features in single cases.

The general conclusion is that hereditary constitution plays a very important part in the development of tuberculosis, its more benign or malignant course and the organs affected. There exists a specific inherited disposition as well as a resistance to tuberculosis; the latter being of course only relative since no true immunity against tuberculosis occurs in man. This specific disposition is not simply the expression of the (inherited) bodily peculiarities, e.g. of the thorax, but seems to be independent of any of the constitutional features followed up in the investigation. The authors suggest tentatively that only one or two pairs of genes are responsible for the different resistances to tuberculosis.

The results recorded in this book are at least as interesting to the medical man as to the geneticist and eugenis-
tist. As an up-to-date summary of the twin method it will be welcome to many readers.

H. G. HILL.

EUGENICS

Huntington, Ellsworth, in conjunction with the Directors of The American Eugenics Society. *To-morrow's Children — The Goal of Eugenics*. London, 1935. Chapman & Hall. Pp. 131. Price 6s.

THIS work covers the ground very thoroughly and clearly, in the form of question and answer. It is written from the American point of view, but could serve very well as an introduction to eugenics in any country, in spite of the rather insistent effort to translate values into dollars. It ranges from the "scientific background" through the "application to problems of population," stressing and summarizing the differences between negative and positive eugenics, to

the "personal application" and "public relationships," and thus reaches "The goal of eugenics," which is, of course, not merely the elimination of all the grosser hereditary defects of humanity but the raising of the general standard and eventually the production of an entirely finer type of human being. To this end it is suggested that we should "make it a rule that out of every ten dollars given to religious, philanthropic, and public purposes at least one dollar shall be set aside for race improvement."

The need for research is stressed, without any trace of the usual suggestion that we can do nothing until we know more. There is a useful appendix explaining the mechanism of heredity.

The tone of the book is invigorating in its optimism and its promise of great improvement if humanity will but use the knowledge it has in a reasonable manner.

URSULA GRANT DUFF.

The Family Face. A history of the Family, written by the family, according to the plan of JACQUIER. 1936.

The Nonesuch Press. Price 5s.

SIR FRANCIS GALTON advised every educated person to study his family pedigree and to make a record of facts of genetic as well as of social interest. When I became Secretary of the *Eugenics Society*, I was asked in one of the first letters I received whether the *Society* had devised any method by which such records could be kept. It appeared that nothing of the sort had been produced by the *Society*, but that various schedules and forms had been produced in other countries, notably America. All of these were, in various respects, unsatisfactory.

The upshot was that, with the assistance of Mr. Gun, Mr. Lidbetter and Professor Ruggles Gates, I produced the *Society's* green-backed schedule. This achieved, I set myself the task of filling in the document for my own family, and it was then borne home on me, for the first time, what an enormous task this involved. The schedule has since been successfully used by many Fellows and Members of the *Society*, but all have found that the task demanded of them was con-

siderably greater than they had anticipated.

For those who feel themselves unequal to the exertions demanded by the green-backed schedule, Madame Jacquier's attractive book will be found useful. "This book came to life," she writes in a prefatory note, "because the Bible as a large book with a fly-leaf is almost extinct. Our houses are almost too small to keep even the legacy of old letters we find in our parents' desk, or our time too short for us to go through them adequately. We burn them, and in the blue smoke, the irreplaceable perishes. The past flies up the chimney, for ever lost."

The book is of fixed size and, unlike the *Society's* schedule, does not admit of additional pages. Of each of our near relatives, questions are asked, the replies to which, taken together, throw their characters into a total perspective. At first sight, some of these questions appear frivolous; but on closer scrutiny, they are seen to be well designed to circumvent too monotonous a flow of those indiscriminating eulogies which follow from strict adherence to the dictum "*De mortuis nil nisi bonum.*"

Among the particulars asked of one's mother appear the following: Her upbringing and what she had to say about it; what she was taught and what she had to say about it; reports of her when young; her appearance and dress; how I see her most characteristically; her early love affairs; how she first met my father and what happened at the meeting; they lived . . .; her tastes (in music, literature, pictures, the theatre, etc.); her favourite actor or singer; her favourite form of exercise; historical events at which she was present; her reactions and reflections on pacifism, psychoanalysis, birth-control, etc.; her favourite superlatives and adjectives; her favourite proverb, principle or platitude; her political opinions; her religious beliefs; the qualities she most admires in others; her attitude to the family; anecdotes; lastly, the writer is asked to record the characteristics which, in his opinion, he inherits from his mother. On close examination, these are found to be ingenious questions which give to the character a three-dimensional perspective. The